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LISTING OF THE CLAIMS

- 1. (previously presented) A cationic catalysis system comprising an initiator (I), a catalyst (K) and a cocatalyst (CoK), wherein the cocatalyst (CoK) is an agent which releases the polymerization active center from its counterion generated by the reaction between the catalyst (K) and the initiator (I).
- 2. (canceled)
- 3. (previously presented) The catalytic system as claimed in claim 1, wherein the cocatalyst (CoK) is a molecule having at least one double bond depleted in electrons by an electron-withdrawing group.
- 4. (previously presented) The catalytic system as claimed in claim 3, wherein the cocatalyst (CoK) is selected from the group of complexing agents consisting of o-chloranil (3,4,5,6-tetrachloro-1,2-benzoquinone), p-chloranil (2,3,5,6-tetrachloro-1,4-benzoquinone), nitrobenzene, trinitrobenzene, tetracyanoethylene, difluoronitrobenzene, pentafluorobenzene, hexafluorobenzene and octafluorotoluene.
- 5. (previously presented) The catalytic system as claimed in claim 1, wherein the catalyst (K) comprises an element (M) selected from the group consisting of Groups IB, IIB and A, IIIB and IIIA, IVB and IVA, VB and VA, and VIIIB of the Periodic Table of the Elements.
- 6. (previously presented) The catalytic system as claimed in claim 5, wherein the element (M) is selected from the group consisting of the chemical elements B, Ti, Sn, Al, Hf, Zn, Be, Sb, Ga, In, Zr, V, As and Bi.
- 7. (previously presented) The catalytic system as claimed in claim 5, wherein the catalyst (K) is a Lewis acid of general formula R_nMX_{3-n} for M an element belonging to Group IIIA, of general formula MX_4 for M an element belonging to Groups VA, IVA and IVB, and of general formula MX_5 for M an element belonging to Group VB, with:

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- R a monovalent radical taken from the group consisting of trifluoromethylsulfonate, hydrocarbon groups with 1 to 12 carbon atoms of alkyl, aryl, arylalkyl, alkylaryl or cycloalkyl type, and alkoxys;
- X a halogen atom taken from the group F, Cl, Br and I;
- n an integer from 0 to 3.
- 8. (previously presented) The catalytic system as claimed in claim 5, wherein the catalyst is selected from the group consisting of TiCl₄, ZrCl₄, SnCl₄, VCl₄, SbF₅, AlCl₃, AlBr₃, BF₃, BCl₃, FeCl₃, EtAlCl₂, Et_{1.5}AlCl_{1.5}, Et₂AlCl, AlMe₃ and AlEt₃.
- 9. (previously presented) The catalytic system as claimed in claim 5, wherein the initiator (I) can be a monofunctional molecule (I1), a diffunctional molecule (I2), a molecule substituted by one or more halogen atoms (I3) or a Brønsted acid (I4).
- 10. (previously presented) A process for the cationic polymerization of C3 to C10 monomers involving a catalytic system comprising an initiator (I), a catalyst (K) and a cocatalyst (CoK), wherein the cocatalyst (CoK) is an agent which releases the polymerization active center from its counterion generated by the reaction between the catalyst (K) and the initiator (I).
- 11. (previously presented) The process as claimed in claim 10, wherein the monomers are selected from the group consisting of dimethylketene, isobutylene, but-1-ene, 4-methylpent-1 ene, oct-1-ene, 2-methylbut-1-ene, 3-methylbut-1-ene, 2-methylbut-2-ene, styrene, styrenes substituted by alkyl radicals, α-methylstyrene, p-methylstyrene, halosubstituted styrenes, p-chlorostyrene, propylene, isopentene, vinyl monomers, vinyl ethers, diolefins or cyclodiolefins with conjugated dienes, 1,3-butadiene, 2,3-dimethyl-1,3-butadiene, hexadiene, myrcene, 6,6-dimethylfulvene, piperylene, isoprene, cyclopentadiene, cyclohexadiene, vinylnorbornene, and β-pinene.
- 12. (withdrawn) A polymer polymerized by the process as claimed claim 10.
- 13. (canceled)